

43

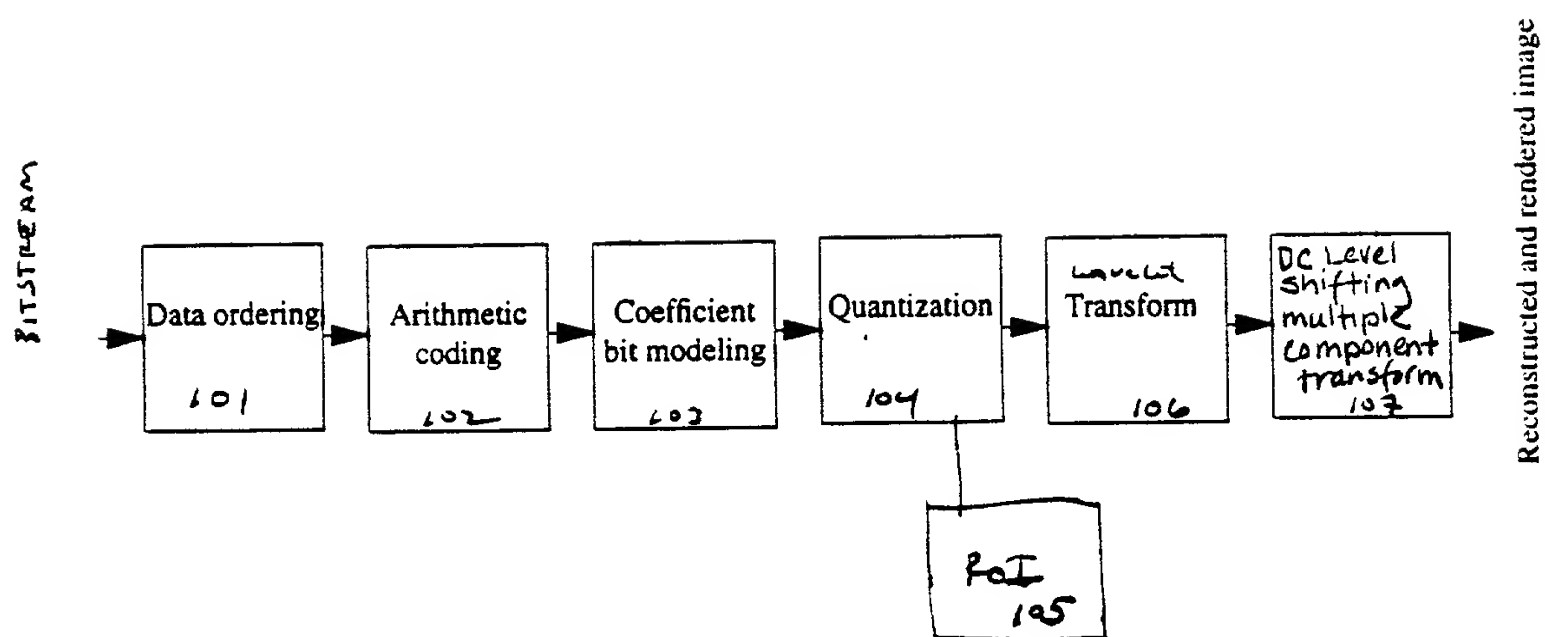


Figure 1

The diagram illustrates a system architecture for wavelet processing. At the top, a large rectangle represents a memory array, labeled "Memory 201" in the upper right corner. Inside this array, a horizontal double-headed arrow is labeled "tile width", and a vertical double-headed arrow is labeled "tile height". A central rectangular region within the array is labeled "tile 210". Below the array, a long horizontal double-headed arrow is labeled "image width = line offset". A large, hollow, double-headed vertical arrow connects the memory array to a processing block below. The processing block is a large rectangle containing two smaller, horizontally-oriented rectangles. The top rectangle is labeled "MEMORY ACCESS LOGIC 202A" and the bottom rectangle is labeled "WAVELET TRANSFORM(S) 202B". To the right of the processing block, the text "WAVELET PROCESSING LOGIC 202" is written, with a curved line pointing from the "202" to the "WAVELET TRANSFORM(S) 202B" block.

Figure 2

level 1 (3.2)  
(3)  
Figure 3

level2  
(b)

level 1  
(E)

output  
(F)

Figure 3

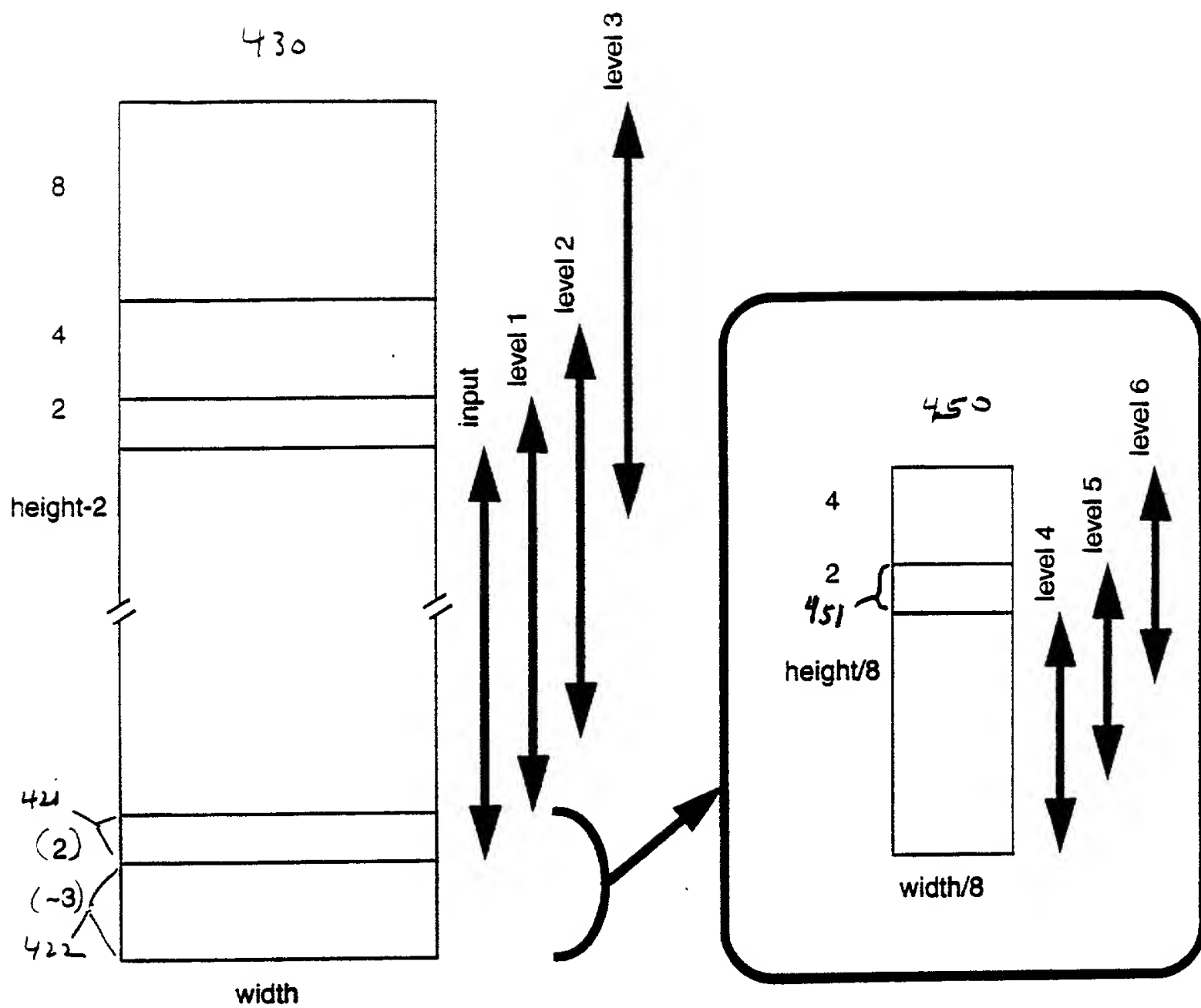


Figure 4 A

The diagram illustrates the hierarchical structure of a 2D grid. The main grid is divided into levels: 'output', 'level 1', 'level 2', and 'level 3'. The grid is labeled with 'width' and 'height-2'. A zoomed-in view of a single cell shows its internal structure with levels 'level 4', 'level 5', and 'level 6', and dimensions 'height/8' and 'width/8'.

Figure 4B

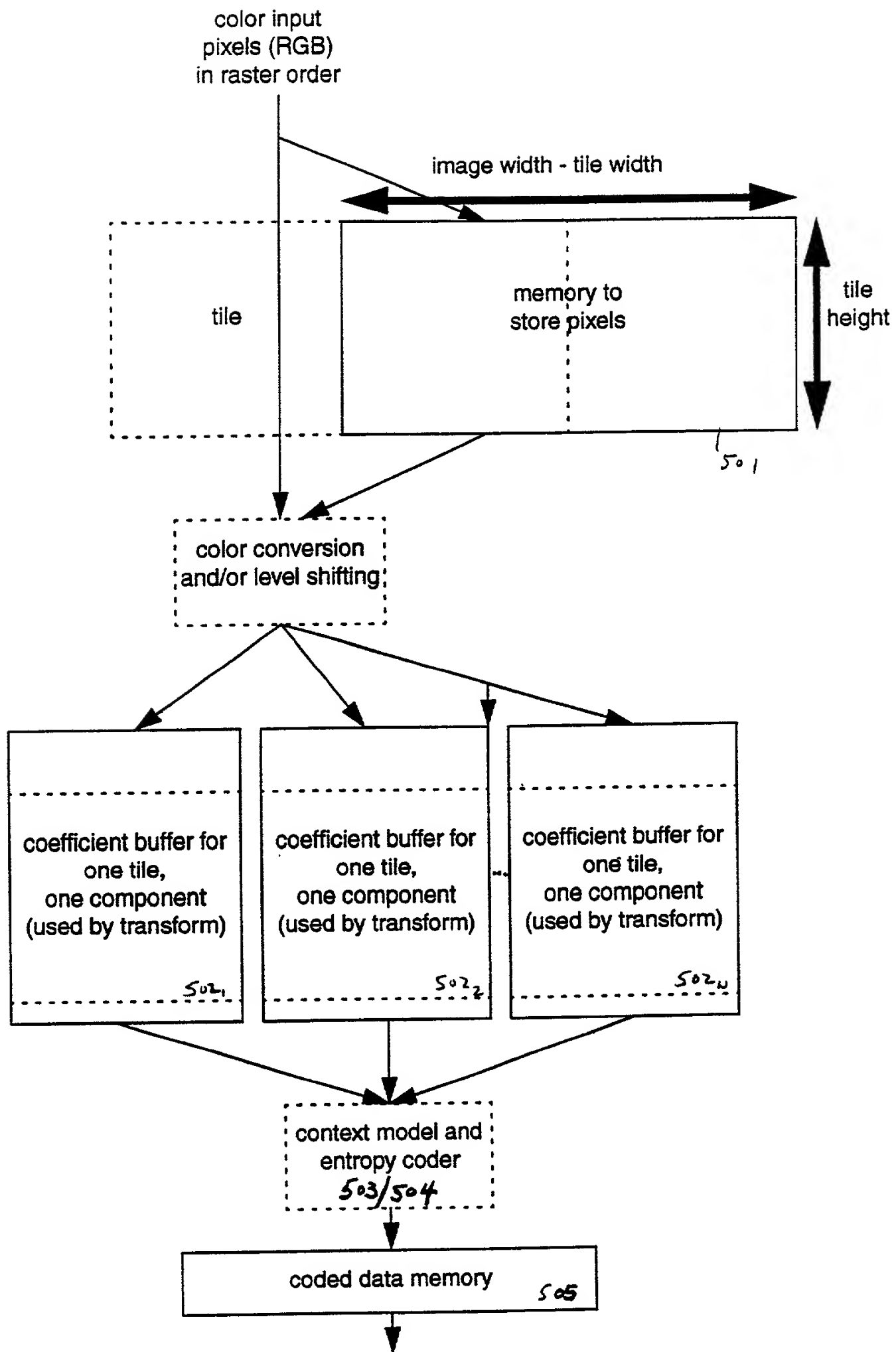


Figure 5

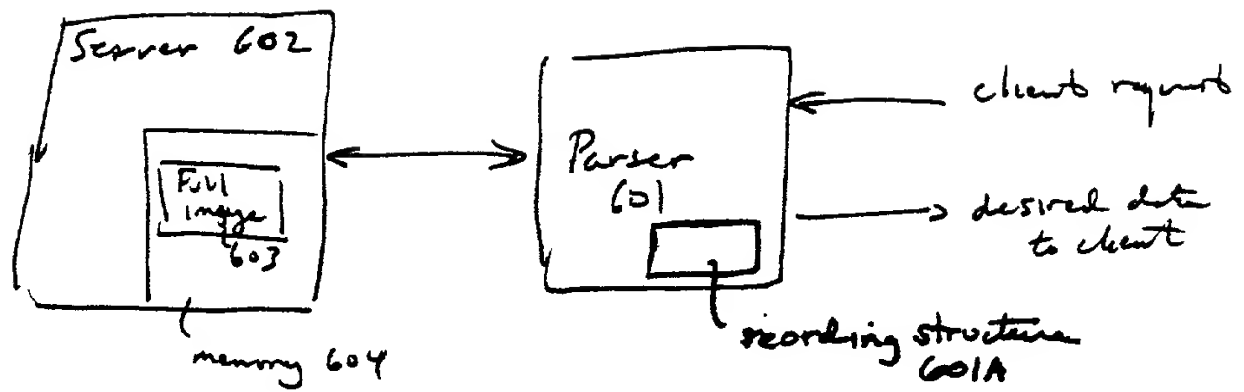


Figure 6A

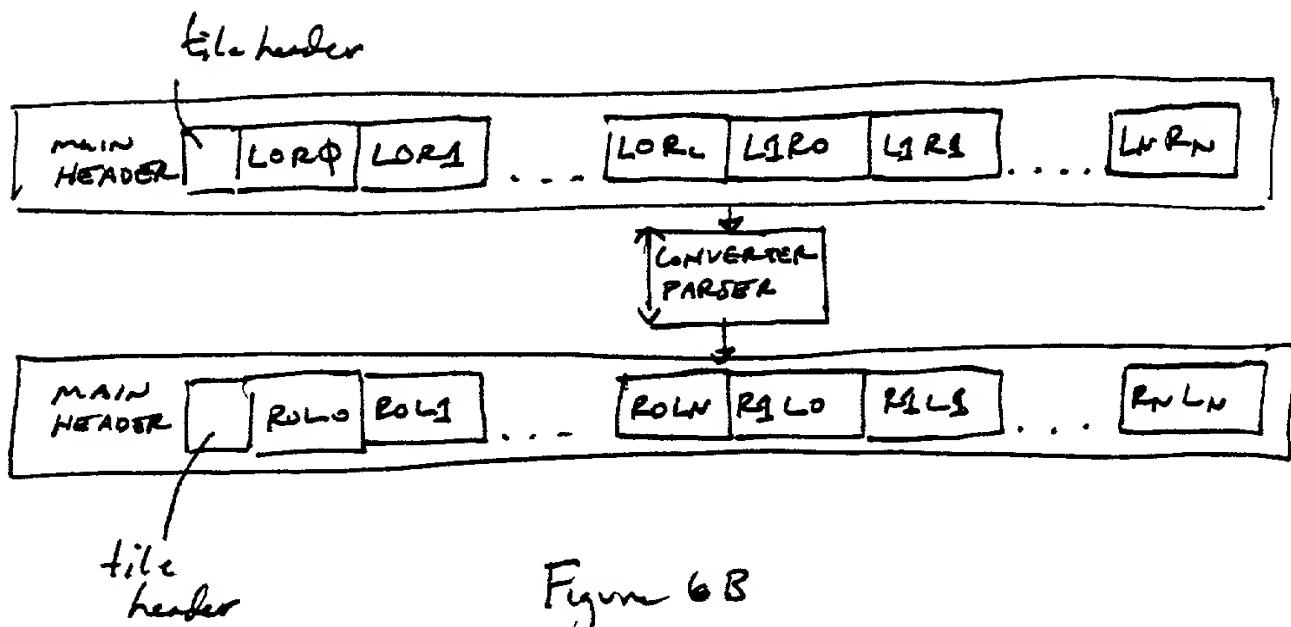


Figure 6B



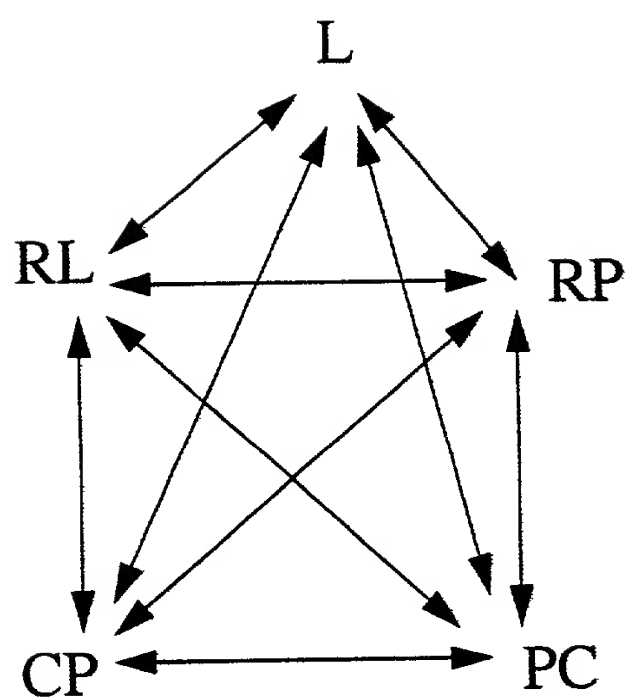


Figure 7A

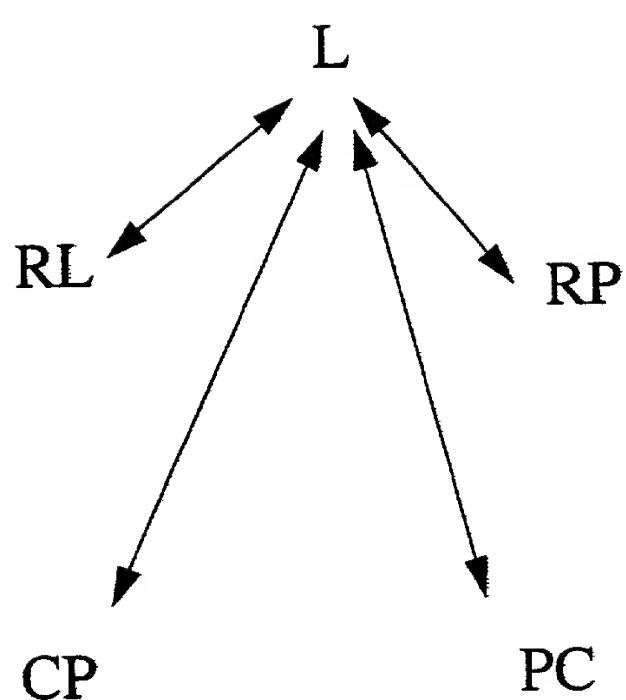


Figure 7B

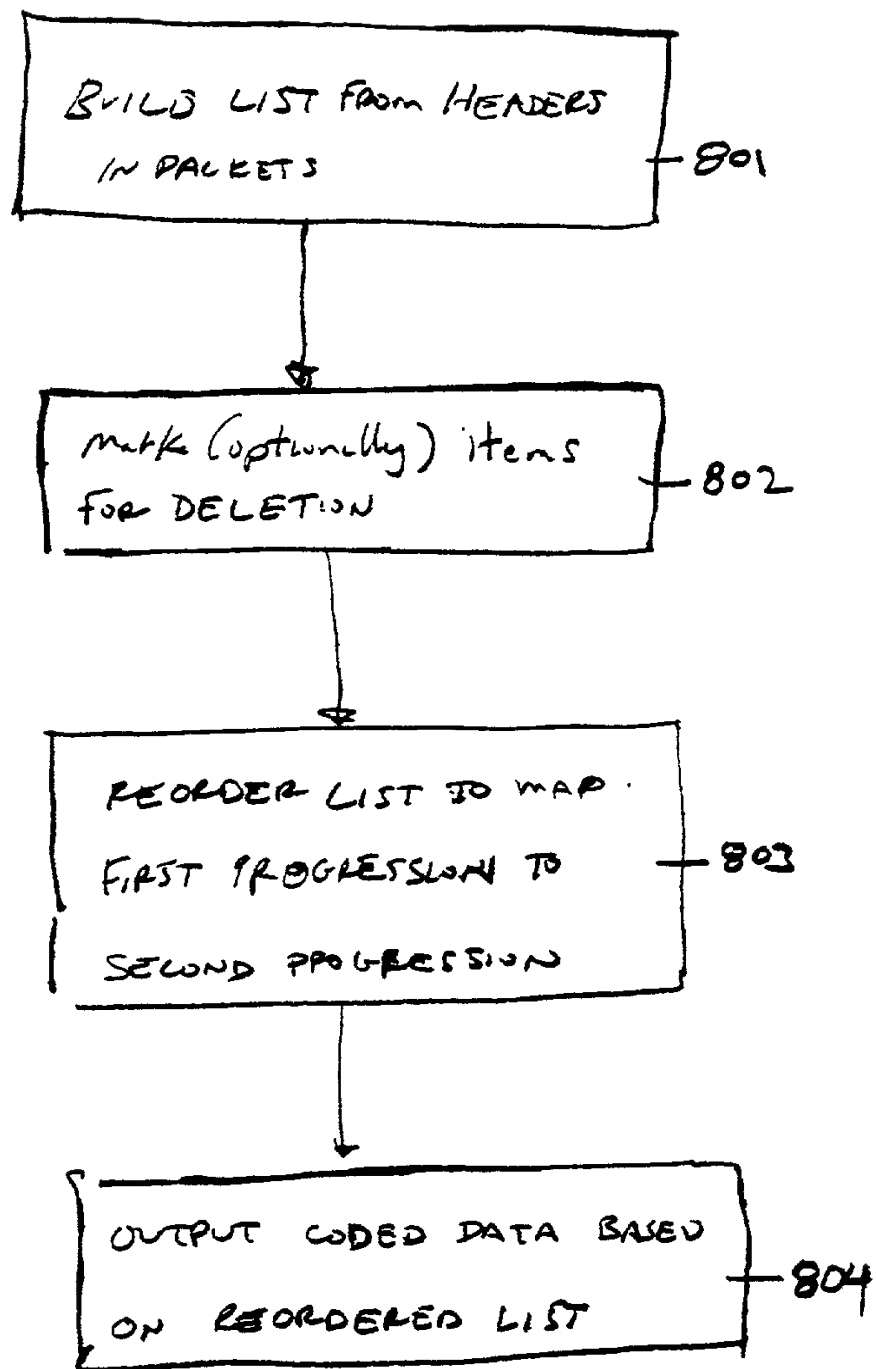


Figure 8

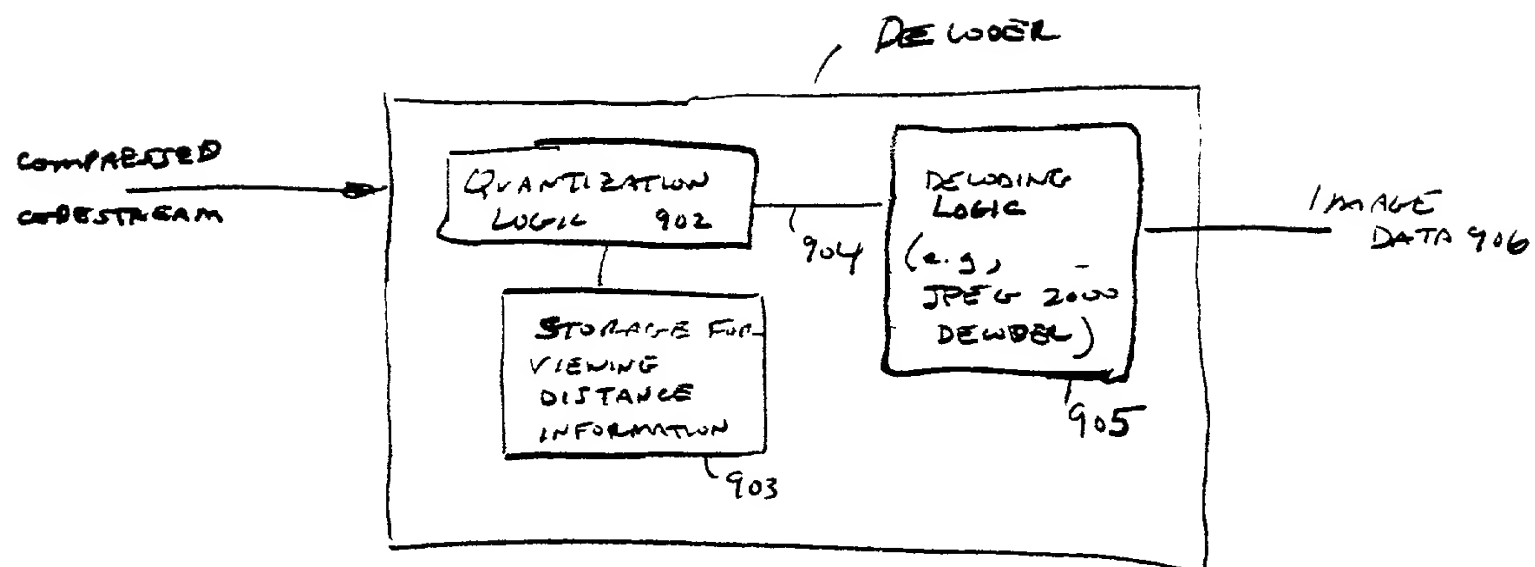


Figure 9

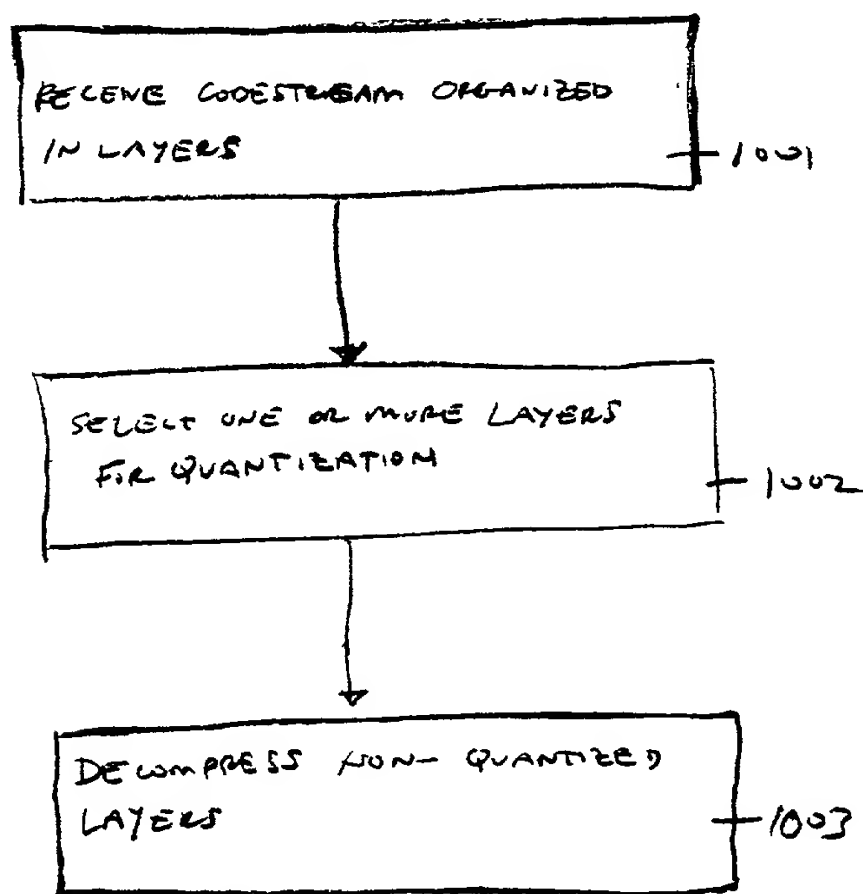


Figure 10

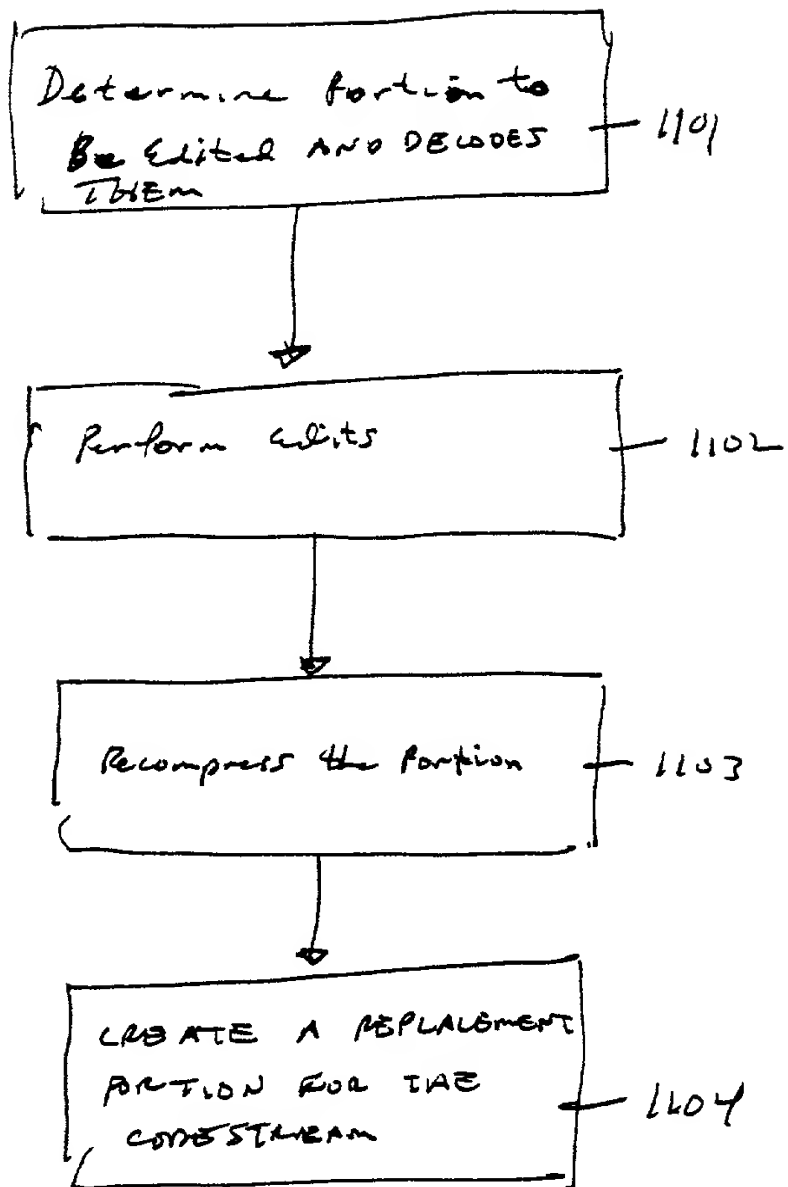


Figure 11

09800697 098001

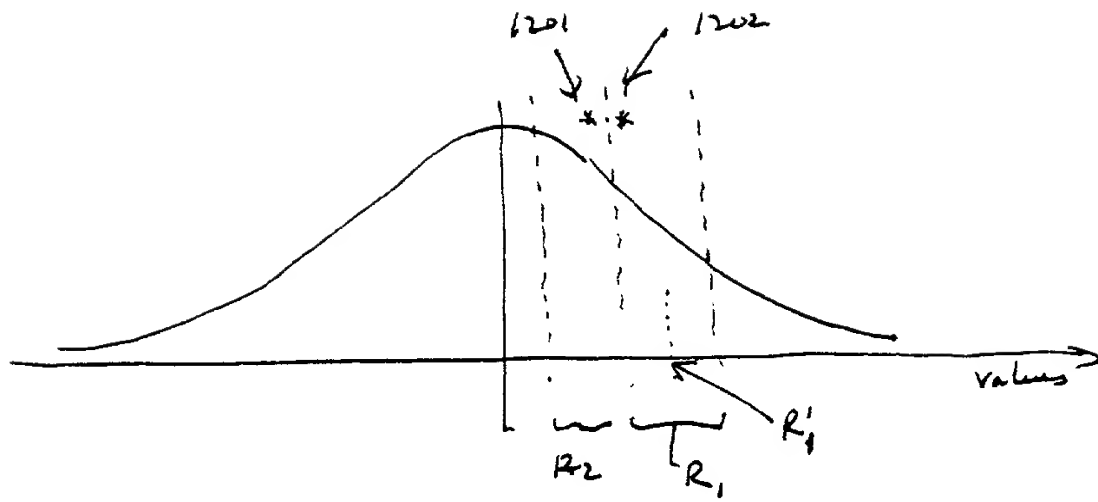


Figure 12

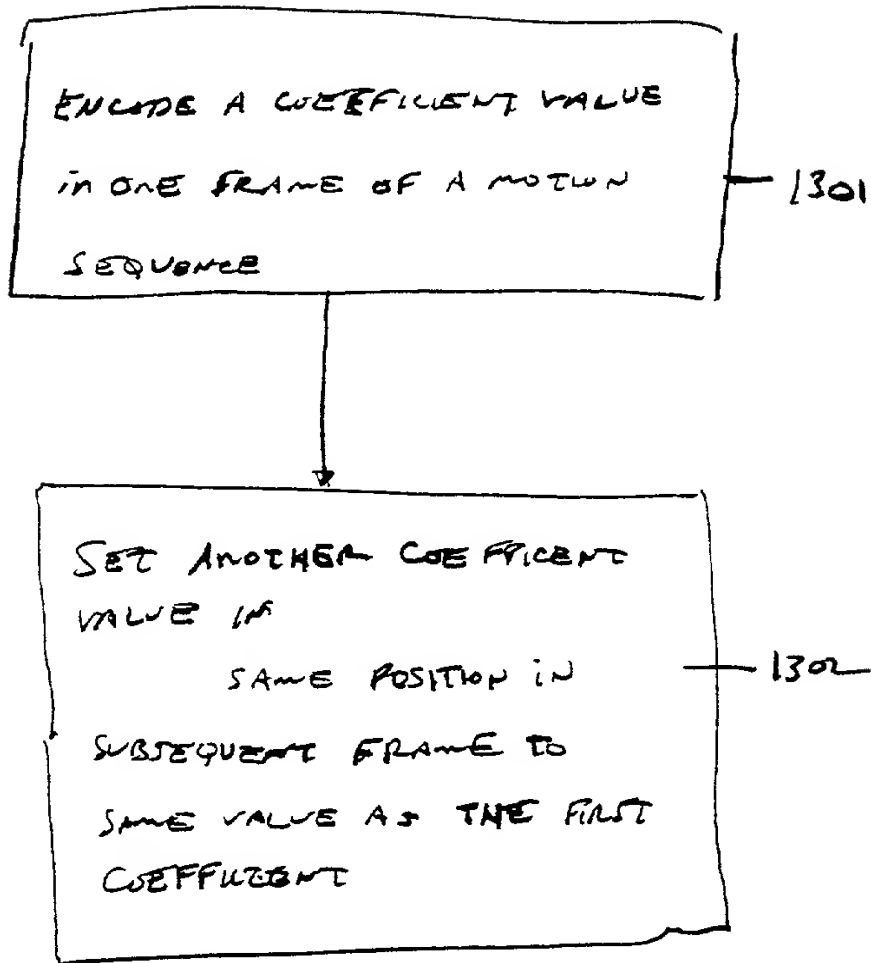


Figure 13

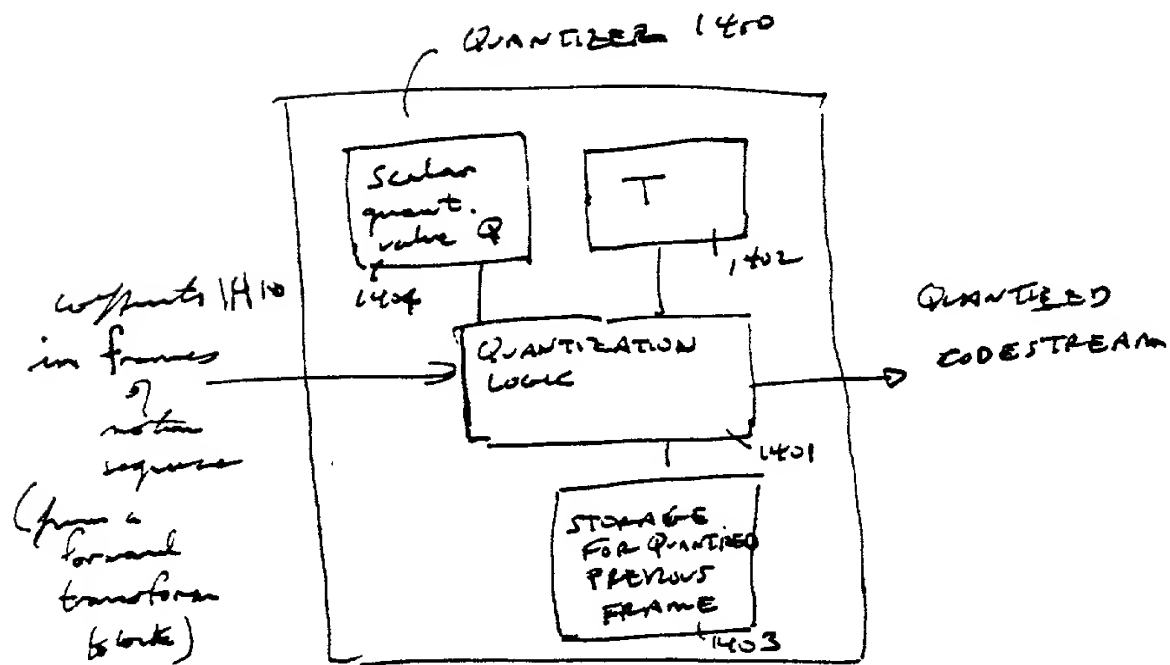


Figure 14

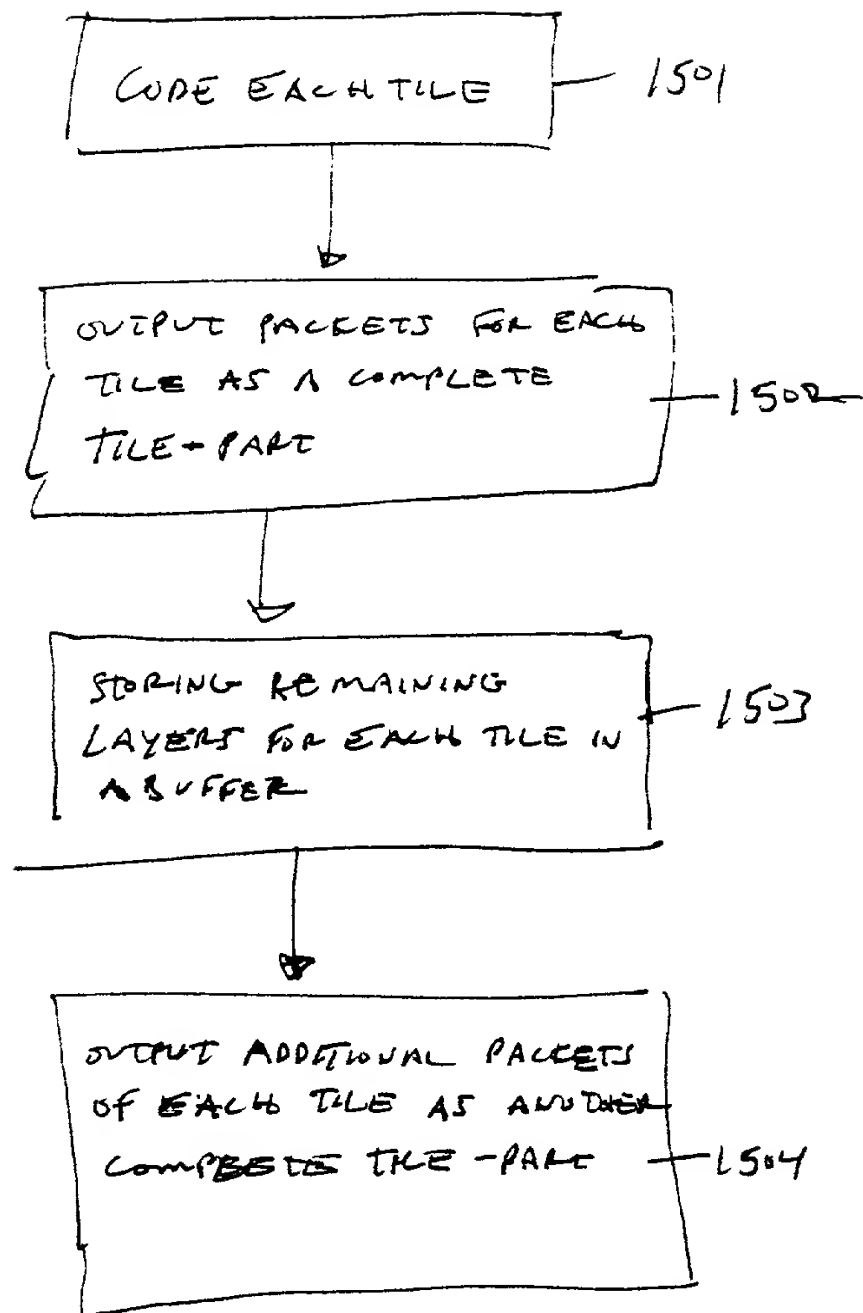


Figure 15 A

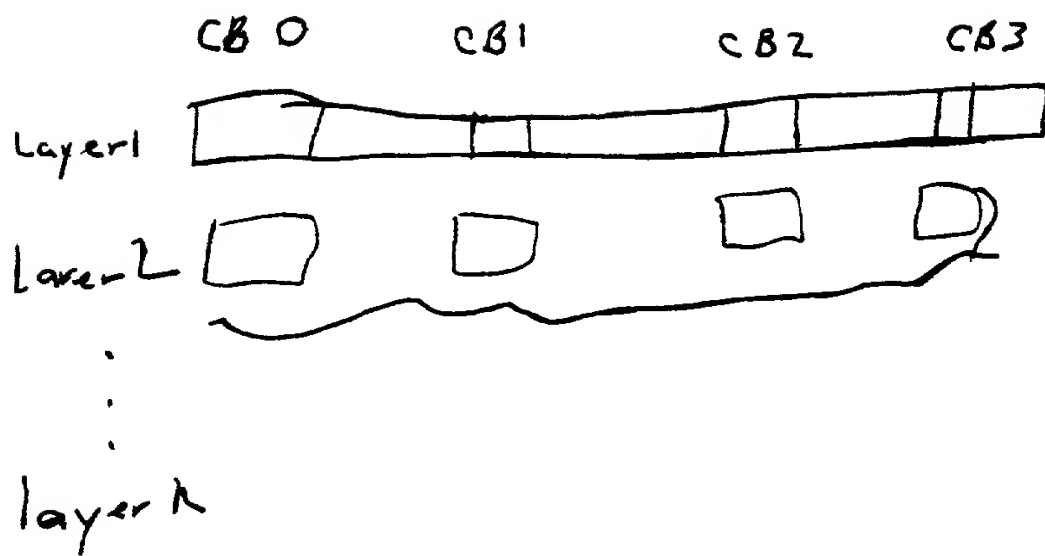


Fig 15B

09800687-080000



Category	Sub-category	Value
General Information	Age	25
	Gender	Male
	Height	1.75
	Weight	70
	Education	High School
	Occupation	Student
	Marital Status	Single
	Religion	Muslim
	Language	Indonesian
	Address	Jakarta, Indonesia
Academic Performance	Mathematics	85
	Science	78
	History	92
	Geography	88
	English	75
	Arabic	80
	Physical Education	70
	Art	82
	Musical Ability	75
	Sports Participation	Active
Health and Lifestyle	Smoking	No
	Alcohol Consumption	No
	Exercise Frequency	3 times/week
	Dietary Habits	Halal
	Sleeping Pattern	Regular
	Stress Management	Relaxation
	Medical History	None
	Current Medication	None
	Family Support	Strong
	Future Plans	Study abroad

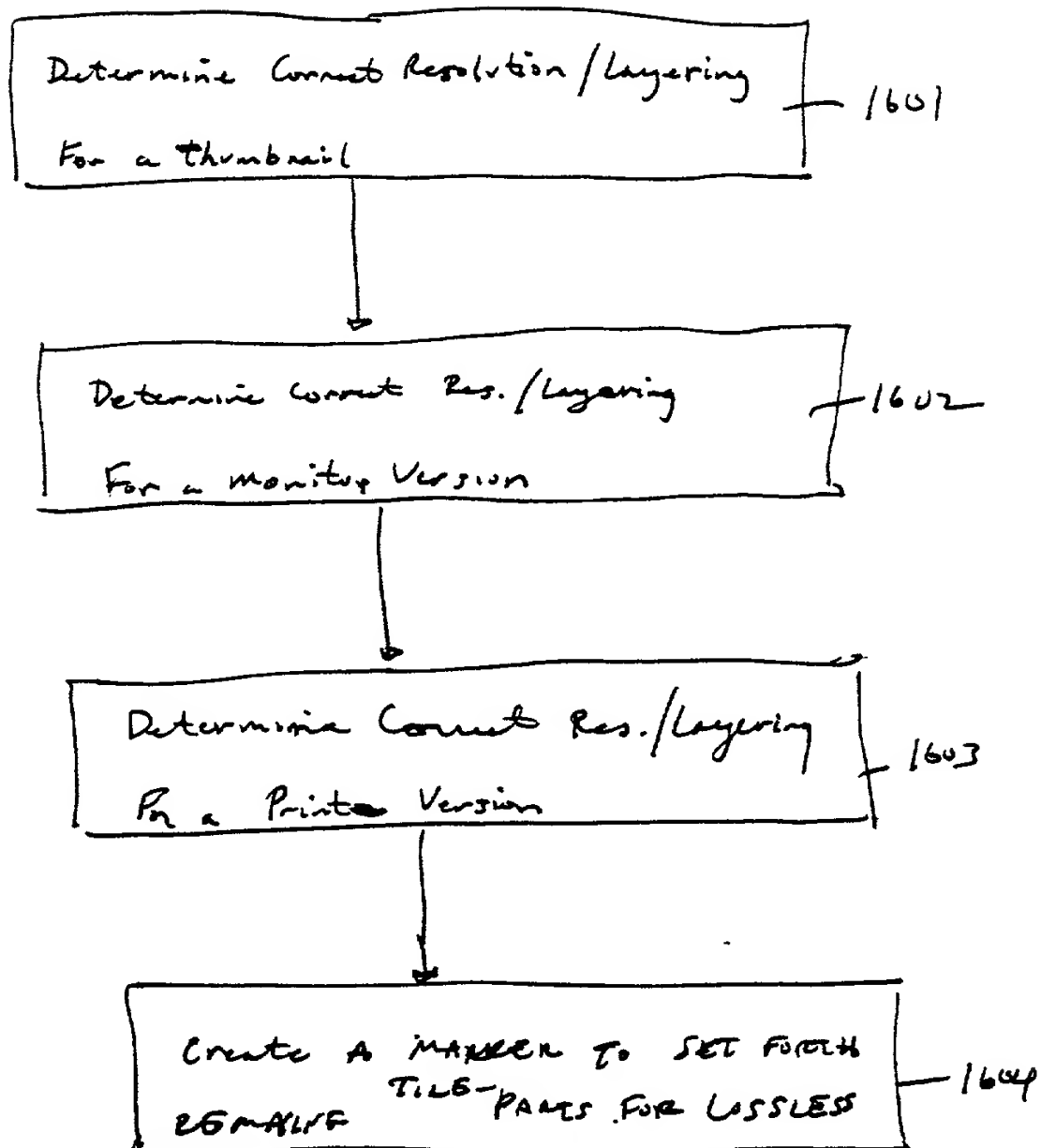


Fig 16

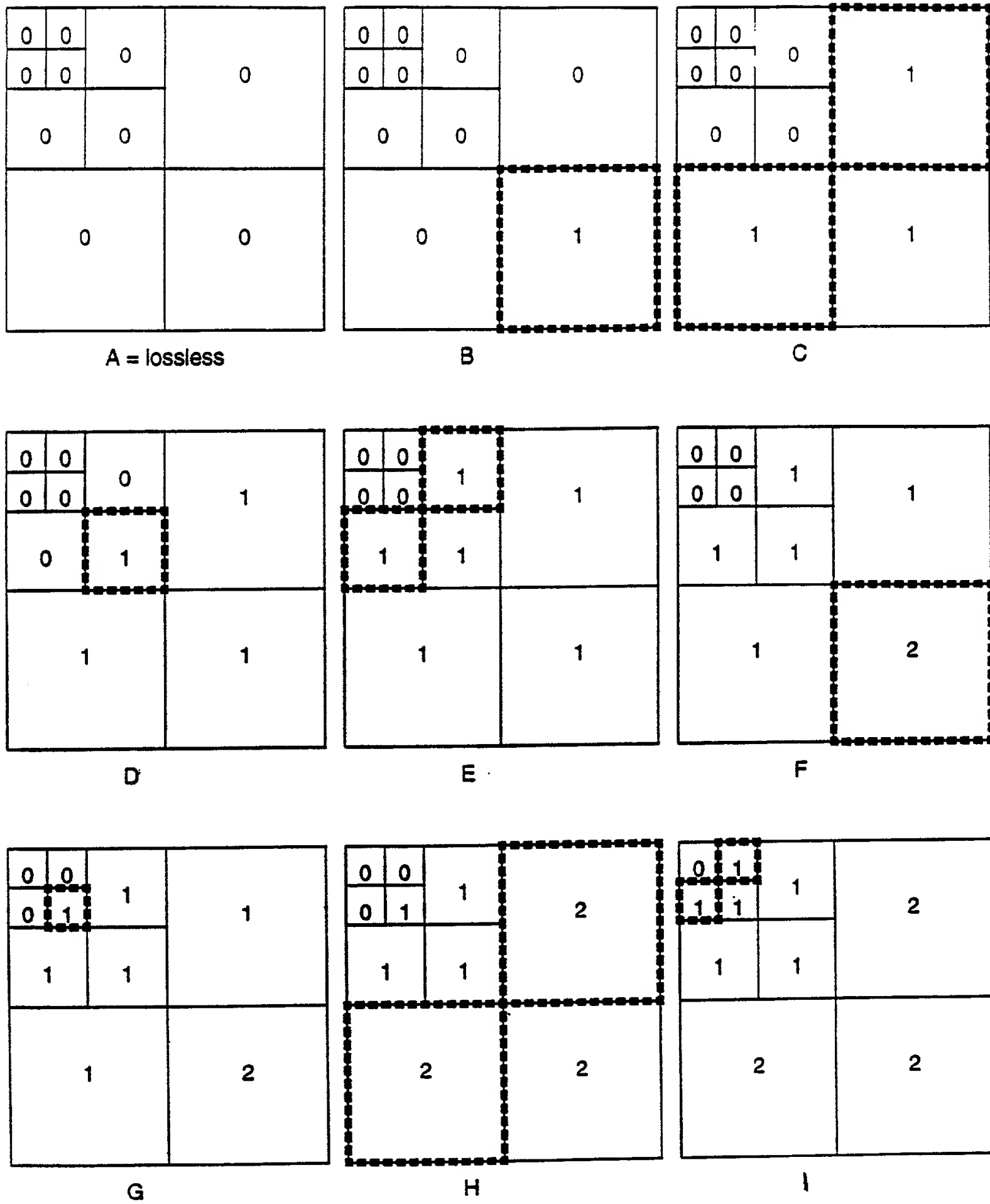


Figure 17

Figure 1 displays nine diagrams (J through R) illustrating the construction of a 3D shape from a 2D net. Each diagram shows a 2D net with numbers 1, 2, and 3 in various cells. Dashed lines indicate fold lines. The diagrams are arranged in a 3x3 grid.

- J:** A 2D net with numbers 0, 1, 1, 1, 2, 2, 2. The numbers 1, 2, and 2 are in the top row, and the numbers 1, 2, and 2 are in the bottom row. The number 0 is in the top-left corner.
- K:** A 2D net with numbers 1, 1, 1, 1, 2, 2, 2. The numbers 1, 1, and 1 are in the top row, and the numbers 1, 2, and 2 are in the bottom row.
- L:** A 2D net with numbers 1, 1, 2, 2, 2, 2, 2. The numbers 1, 1, and 2 are in the top row, and the numbers 1, 2, and 2 are in the bottom row.
- M:** A 2D net with numbers 1, 1, 2, 2, 2, 3. The numbers 1, 1, and 2 are in the top row, and the numbers 1, 2, and 3 are in the bottom row.
- N:** A 2D net with numbers 1, 1, 2, 2, 2, 3. The numbers 1, 1, and 2 are in the top row, and the numbers 1, 2, and 3 are in the bottom row.
- O:** A 2D net with numbers 1, 1, 2, 2, 3, 3. The numbers 1, 1, and 2 are in the top row, and the numbers 1, 2, and 3 are in the bottom row.
- P:** A 2D net with numbers 1, 2, 2, 2, 2, 3. The numbers 1, 2, and 2 are in the top row, and the numbers 2, 2, and 3 are in the bottom row.
- Q:** A 2D net with numbers 1, 2, 2, 2, 3, 3. The numbers 1, 2, and 2 are in the top row, and the numbers 2, 2, and 3 are in the bottom row.
- R:** A 2D net with numbers 2, 2, 2, 2, 3, 3. The numbers 2, 2, and 2 are in the top row, and the numbers 2, 2, and 3 are in the bottom row.

**Figure 18**

Figure 1 illustrates the block diagram of the luminance and chrominance channels of the proposed video coding system. The diagram is divided into three main sections: luminance, chrominance, and chrominance.

**Luminance Channel:** This section contains a 4x4 grid of sub-blocks. The top-left 2x2 grid contains the value 0. The top-right 2x2 grid contains the value 2. The bottom-left 2x2 grid contains the value 0. The bottom-right 2x2 grid contains the value 1. The bottom-left 2x2 grid contains the value 2. The bottom-right 2x2 grid contains the value 3.

**Chrominance Channel (Left):** This section contains a 4x4 grid of sub-blocks. The top-left 2x2 grid contains the value 0. The top-right 2x2 grid contains the value 2. The bottom-left 2x2 grid contains the value 2. The bottom-right 2x2 grid contains the value 3. The bottom-left 2x2 grid contains the value 4. The bottom-right 2x2 grid contains the value 4.

**Chrominance Channel (Right):** This section contains a 4x4 grid of sub-blocks. The top-left 2x2 grid contains the value 0. The top-right 2x2 grid contains the value 2. The bottom-left 2x2 grid contains the value 2. The bottom-right 2x2 grid contains the value 3. The bottom-left 2x2 grid contains the value 4. The bottom-right 2x2 grid contains the value 4.

**Figure 19**

2000

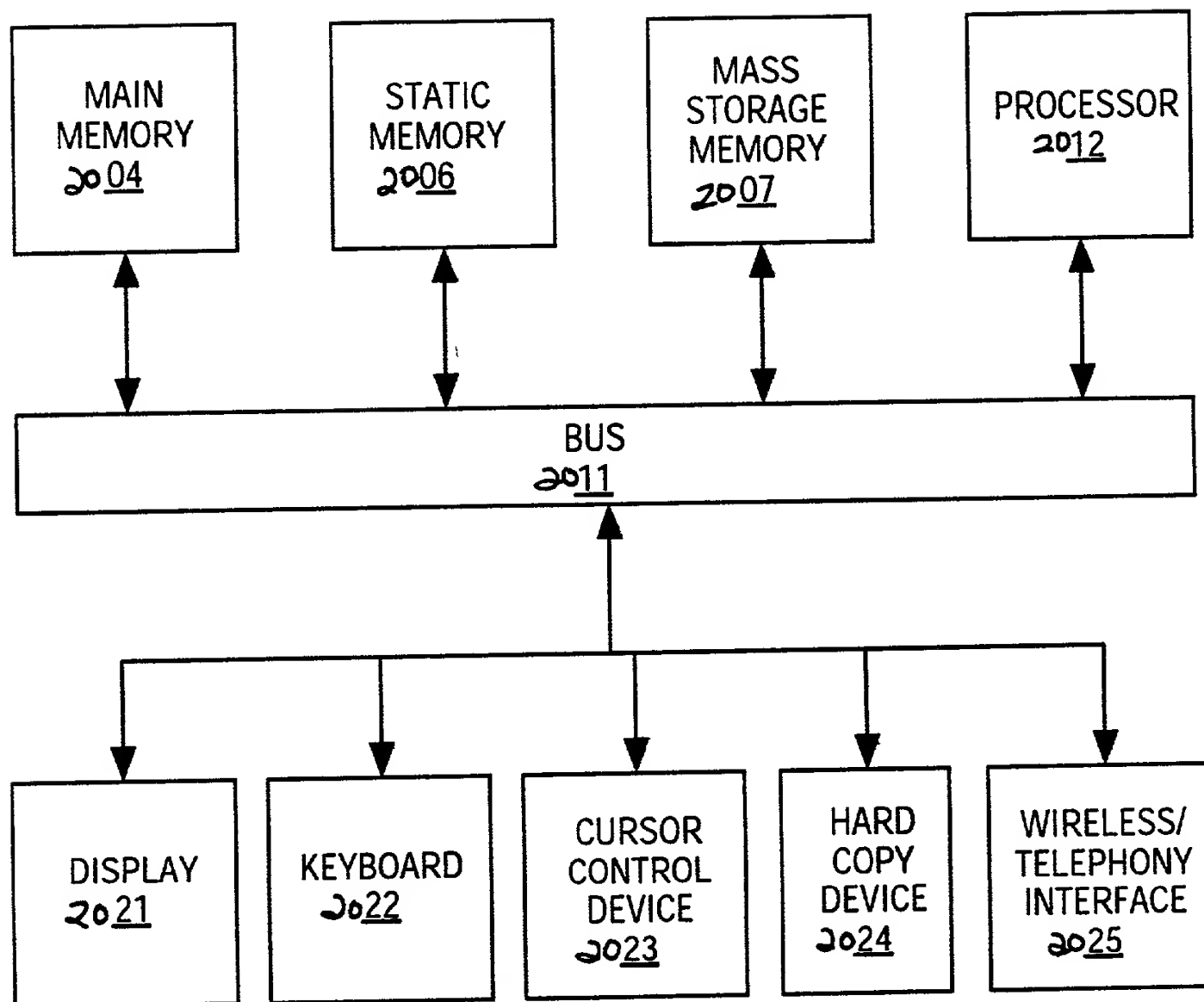


FIG. 20

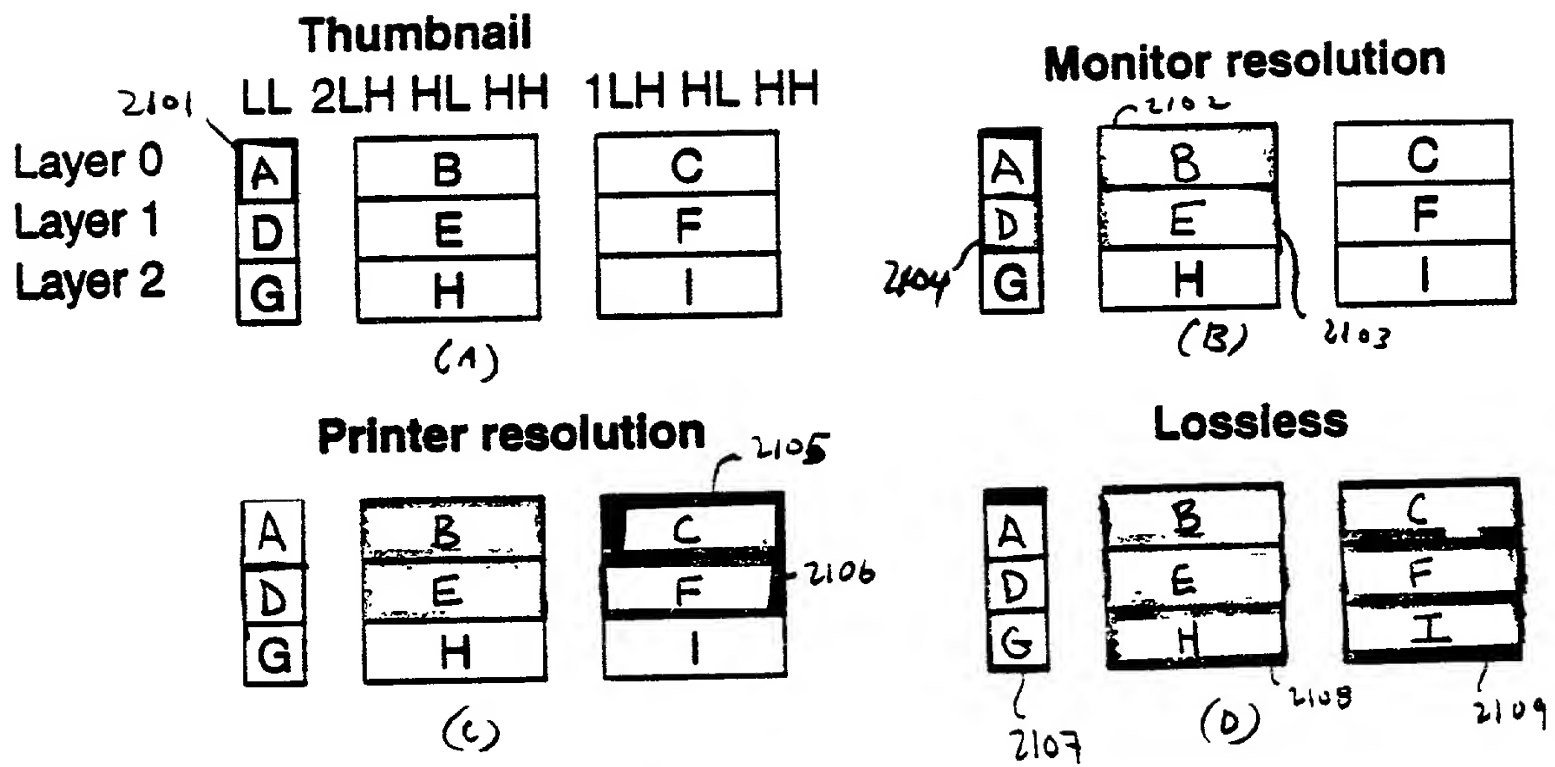


Figure 21



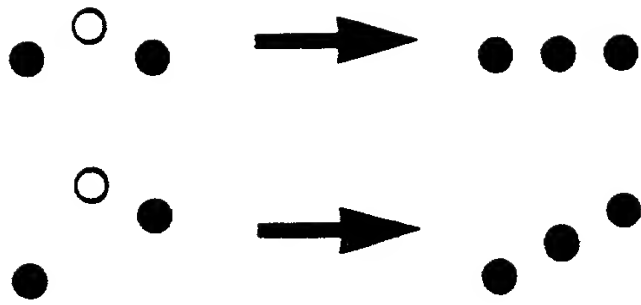


Figure 24



# TYPICAL DECODE OF COLOR IMAGES

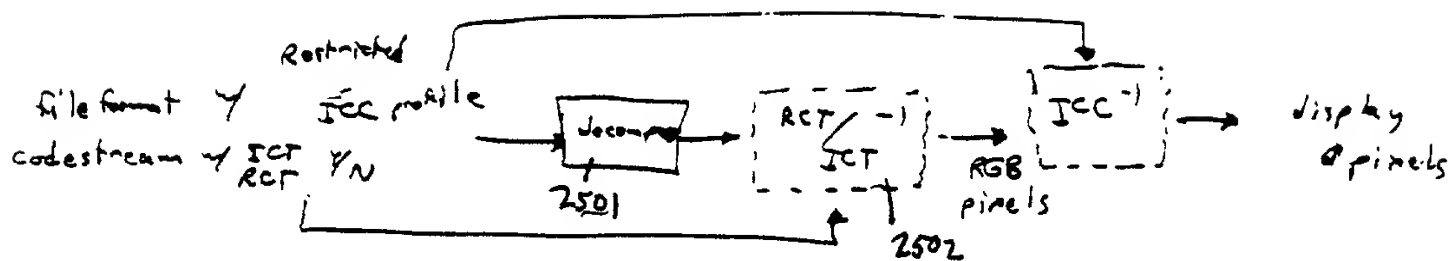


Figure 25

## DUMB CAMERA ENCODER

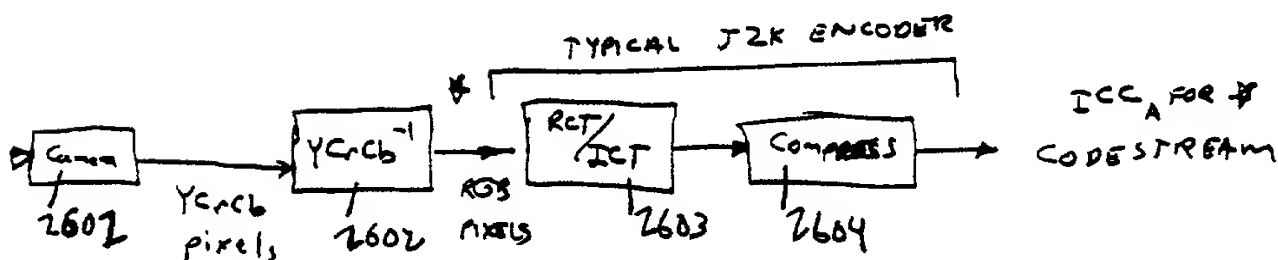


Figure 26

## SIMPLE CAMERA ENCODER

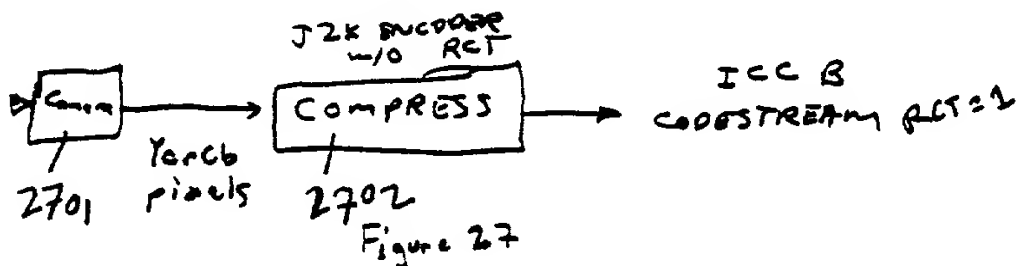


Figure 27

Category	Item	Value
General Information	Age	25
	Gender	Male
	Height	1.75
	Weight	70
	Education	High School
	Occupation	Student
	Marital Status	Single
	Religion	Muslim
	Language	Arabic
	Country	Saudi Arabia
Personal History	Current Address	Riyadh, Saudi Arabia
	Phone Number	011-444-1234
	Email Address	example@gmail.com
	Medical History	No chronic diseases
	Family History	No family history of chronic diseases
	Current Medications	None
	Previous Injuries	Minor knee injury 5 years ago
	Current Symptoms	Joint pain in the knee
	Duration of Symptoms	3 months
	Impact on Daily Life	Moderate
Physical Examination	General Appearance	Well
	Height	1.75
	Weight	70
	Heart Rate	72 bpm
	Blood Pressure	120/80 mmHg
	Respiratory Rate	16 breaths/min
	Oxygen Saturation	98%
	Temperature	37.2°C
	Neurological Exam	Normal
	Musculoskeletal Exam	Mild swelling and tenderness in the knee
Laboratory Tests	Complete Blood Count (CBC)	Normal
	Erythrocyte Sedimentation Rate (ESR)	25 mm/hr
	C-reactive Protein (CRP)	10 mg/L
	Urea Nitrogen (BUN)	10 mg/dL
	Creatinine	1.2 mg/dL
	Glucose	100 mg/dL
	Lipid Profile	Normal
	Protein Electrophoresis	Normal
	Antinuclear Antibody (ANA)	Negative
	Rheumatoid Factor (RF)	Negative
Imaging Studies	X-ray of the Knee	Mild joint space narrowing
	Magnetic Resonance Imaging (MRI)	Mild effusion and synovitis
	Ultrasound of the Knee	Mild synovitis
	Computed Tomography (CT) Scan	No abnormalities
	Positron Emission Tomography (PET) Scan	No abnormalities
	Angiography	No abnormalities
	Biopsy of the Knee	No abnormalities
	Genetic Testing	No abnormalities
	Microscopic Examination	No abnormalities
	Immunohistochemistry	No abnormalities
Treatment Plan	Medications	NSAIDs, Corticosteroids
	Physical Therapy	Strengthening exercises
	Occupational Therapy	Joint protection techniques
	Bracing	Knee brace
	Assistive Devices	Cane
	Weight Management	Weight loss program
	Smoking Cessation	Not applicable
	Alcohol Cessation	Not applicable
	Stress Management	Stress management techniques
	Follow-up	Regular follow-up visits

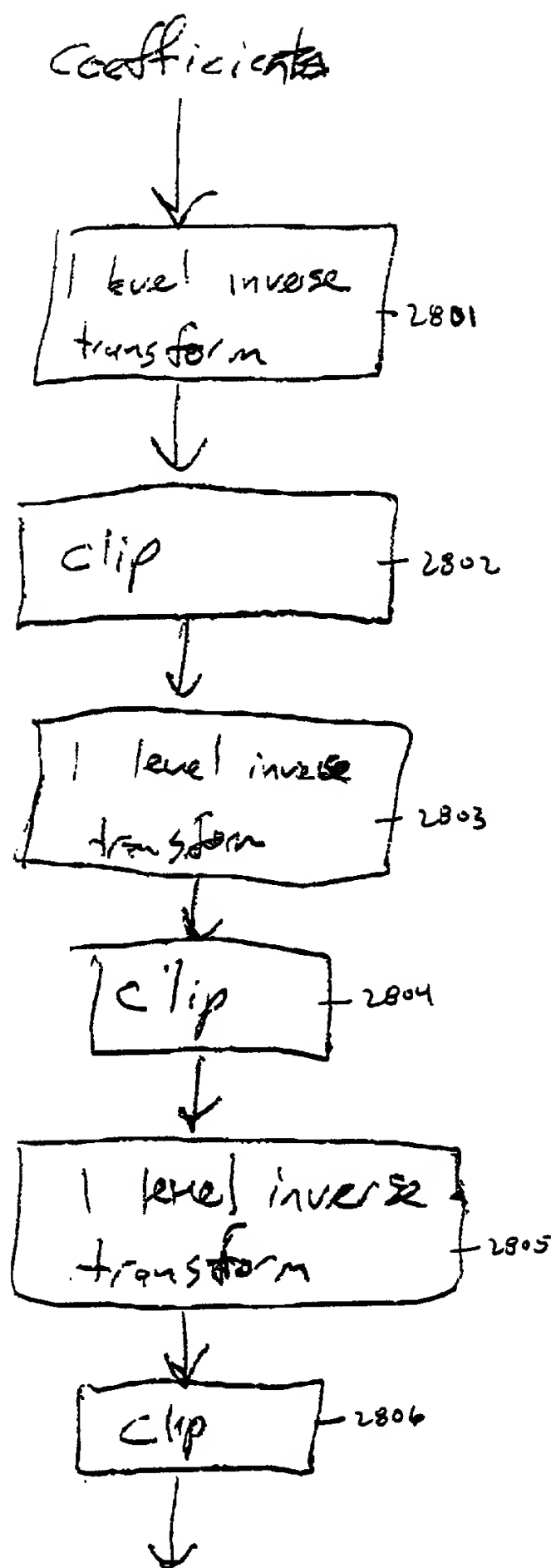


Figure 28